NICE Guidelines

CG15: Diabetes

- Mild (can self-treat) or moderate (needs assistance with oral treatment) hypoglycaemia:
    - 10-20g oral simple carbohydrate
    - Followed by complex carbohydrate
    - Recheck BM after 15 minutes
- Severe hypoglycaemia:
    - Up to 5ml/kg 10% dextrose IV if possible
    - IM glucagon (1mg >25kg/8 yrs; 500mcg <25kg/8 yrs)
    - Hypostop an alternative
- DKA:
    - Normal saline and IV insulin infusion recommended
    - $NaHCO_3$ not routinely advised
    - Start potassium replacement early; phosphate replacement not recommended
    - Children – after initial resuscitation, correct fluid deficit over 48 hours with 0.45% saline/dextrose
    - 10ml/kg normal saline boluses if shocked

CG16: Self-harm

- Use of Australian Mental Health Triage Scale – assessment of capacity, distress, mental illness, and willingness to stay for assessment at triage
- Psychosocial assessment need not wait for physical treatment unless life saving or patient unconscious/intoxicated and cannot be assessed
- Assess capacity before allowing self-discharge and share information with GP
- Give advice on self-management of self-injuries and harm minimisation teachniques
- No safe dose for self-poisoning – do not try harm minimisation advice
- Ensure follow up available to anyone discharged
- Self harm in those >65 evidence of suicidal intent until proven otherwise

CG25: Violence

- Aim to predict – demographics, clinical presentation, situation (including staff attitudes)
- Immediate warning signs (facial expression, restless, pupil dilation, tachycardia/pnoea, prolonged eye contact, increased volume speech, poor concentration, threatening gestures)
- Use de-escalation
- Physical intervention can be dangerous – last resort; monitor clinical state throughout
- Rapid tranquillisation
- Oral preferred, IM acceptable, IV exceptional cases
- Lorazepam first line; add haloperidol if psychotic context

CG 36: Atrial fibrillation

- Rhythm control:
    - Symptomatic

    - Younger
    - First presentation with lone AF
    - Secondary to treated precipitant
    - CCF
- Rate control:
    - >65
    - Coronary artery disease
    - Contraindications to antiarrhythmic drugs
    - Unsuitable for cardioversion
    - Haemodynamically unstable
- Assess need for thromboprophylaxis
- Rate control:
    - 1st line beta blocker or rate limiting CCB
    - Add digoxin if need rate control during normal activity
    - CCB + digoxin if need rate control during exercise
- Haemodynamically unstable:
    - DC cardioversion if life-threatening or not permanent
    - Rate control if permanent and not life-threatening

CG 56: Head injury

- CT now:
    - GCS <13 or <15 after 2 hours
    - Open/depressed/basal skull fracture
    - Post-traumatic seizure
    - Focal neurological deficit
    - >1 episode vomiting
    - Coagulopathy with any amnesia or LoC
- CT within 8 hours:
    - Retrograde amnesia >30 minutes
    - Any amnesia/LoC and >65 or dangerous mechanism (fall >1m/5 stairs; struck by vehicle; ejected)
- Children:
    - Amnesia or LoC >5 minutes
    - Abnormal drowsiness
    - >2 episodes vomiting
    - Suspicion of NAI
    - Post-traumatic seizure
    - GCS<14 if >1; <15 if <1
    - Open, depressed, base skull fracture or tense fontanelle
    - Focal neurological deficit
    - Bruise/swelling/laceration >5cm if <1
    - Dangerous mechanism (high speed RTC; fall >3m; high speed projectile injury)
- C-spine – three views; two if <10
- CT c-spine if

    - GCS <13
    - Intubated
    - Plain films abnormal/inadequate
    - Clinical suspicion persists
    - Being scanned for multi-region trauma
- Discuss with neurosurgeon:
    - Abnormal scan
    - GCS <8 despite resuscitation
    - Unexplained confusion >4 hours
    - Drop in GCS (esp. Motor)
    - Progressive focal neurology
    - Seizure without full recovery
    - Penetrating injury
    - CSF leak
- Observations:
    - 30 minutes until GCS 15
    - 30 minutes for two hours, then 60 minutes for four hours, then 2 hourly
- Discharge only when GCS 15, imaging normal if required, supervision at home (or extended observation completed)

CG68: Stroke

- CT immediately if:
    - Possible thrombolysis
    - On anticoagulant/bleeding tendency
    - GCS <13
    - Unexplained progressive/fluctuating symptoms
    - Papilloedema, neck stiffness, fever
    - Severe headache at onset
- TIA
    - Clinic <24 hours if crescendo or ABCD2 ≥4
    - Clinic within 7 days otherwise
    - 300mg aspirin daily

CG69: Antibiotic prescribing in URTI

- No antibiotics (or delayed Rx) unless:
    - Systemically very unwell
    - Presentation suggests serious illness (pneumonia, mastoiditis, peritonsillar abscess, intracranial or intraorbital infection)
    - At risk due to co-morbidity
    - Cough, age >65 with two of (or >80 with one):
        - Hospitalised in last year
        - Diabetes
        - CCF
        - Oral glucocorticoids

    - <2 with B/L otitis media
    - Sore throat and Centor score ≥3
    - Children with ottorrhoea and otitis media

CG75: Metastatic Spinal Cord Compression

- Consider spinal mets:
    - Thoracic/cervical pain
    - Progressive lumbar pain
    - Severe, unremitting lumbar pain
    - Pain worse on straining
    - Localised spinal tenderness
    - Nocturnal spinal pain preventing sleep
    - Discuss with MSSC co-ordinator within 24 hours
- Consider MSSC:
    - Radicular pain
    - Limb weakness
    - Difficulty walking
    - Sensory loss
    - Bladder/bowel dysfunction
    - Signs of spinal cord compression/cauda equina
    - Discuss with MSSC co-ordinator immediately
- Whole spine MRI preferred imaging
- 16mg dexamethasone daily unless contra-indicated
- Analgesia
- Conservative/radiotherapy/surgery in discussion with specialist team

CG82: Schizophrenia

- Risk assessment - degree of insight, potential risk to self or others
- Pharmacotherapy
    - Oral antipsychotic medication preferred
    - Start low and titrate up (unless need for rapid tranquillisation)
    - Clozapine more effective than others, but worse side effect profile (including agranulocytosis) - reserve for failure of other agents or high risk cases
    - Watch for extrapyramidal symptoms
- At least 16 session of CBT, and at least 10 sessions of family therapy (if living with or in close contact with family)
- Counselling, social skills therapy, art therapy, etc generally less effective, but consider on case-by-case basis; include patient preferences in decision

CG84: Diarrhoea and vomiting in children

- Stool culture if septicaemia, blood/mucous, immunocompromised
- Consider culture if recent overseas travel, not resolved at 7/7, uncertain if gastroenteritis

- Increased risk of dehydration if <6/12, LBW, ≥6 diarrhoeal stool/24^{o}, ≥3 vomits/24^{o}, not tolerating breast feed/oral fluids, signs of malnutrition
- Consider hypernatraemia if jittery, increased tone, hyperreflexia, convulsions, drowsiness
- Bloods only if suspect hypernatraemia or IV fluids needed
- ORS if dehydrated; NG if not tolerating; IV if shocked or deteriorating/vomiting ORS
- Avoid fruit juice and carbonated drinks until resolved
- Consider antiobiotics in septicaemia, extra-intestinal spread of bacterial infection, salmonella (if <6/12, immunocompromised, malnourished), C diff pseudomembranous enterocolitis, giardiasis, cholera, dysenteric shigellosis, dysenteric amoebiasis
- Safety net

CG88: Low back pain

- No imaging unless concern for cauda equina, trauma, infection, malignancy, ankylosing spondylitis, or as part of work-up for spinal fusion
- Surgery generally not indicated until at least a year of conservative treatment
- Keep active
- Paracetamol, NSAIDs (add PPI if >45), weak opiate, TCA, strong opiate

CG95: Chest pain of recent onset

- Do not rely on normal ECG to exclude ACS
- Troponin at admission and 12-12 hours after onset of symptoms
- Pain >72 hours ago with no complications does not require immediate admission

CG94: Unstable angina and NSTEMI

- (In all cases unless contraindicated)
- Aspirin 300mg loading and continue indefinitely – Clopidogrel if contraindicated
- Clopidogrel 300mg loading if 6/12 risk >1.5% or PCI <24 hours; continue for 12/12
- Consider Glycoprotein IIa/IIIb inhibitor if PCI within 96 hours
- Fondaparinux unless PCI within 24 hours – then IV heparin

CG100: Alcohol-use disorders

- Withdrawal
    - Admit if <16 or high risk of seizures/DT
    - Consider if vulnerable person
    - Use symptom-triggered regimen of benzodiazepine/carbamazepine if in hospital/24 hour monitoring
    - CIWA-Ar scale suggested
- Oral lorazepam first line for DT
- Do not use phenytoin
- Parenteral thiamine:
    - If attend ED/admitted and are malnourished/risk of malnourishment/decompensated liver disease
    - 5/7 parenteral thiamine if Wernicke's suspected

- Follow IV with oral

CG101: COPD

- Treat exacerbation with corticosteroid (7-14 days), antibiotics if purulent sputum, increased bronchodilator therapy
- Assess need for admission
- Oxygen if required
- Consider theophylline
- NIV for failure to respond to medical therapy; doxapram if NIV not available

CG102: Bacterial meningitis and meningococcal septicaemia

- Petechial rash – IV abx if:
  - Spreading
  - Becomes purpuric
  - Signs meningitis/septicaemia
  - Child appears ill
  - Consider FBC/Coag in all; if history of fever add CRP, blood cultures, PCR, blood gas, BM
  - Treat if elevated WCC/CRP
  - Else consider discharge if remains well on observation
- Ceftriaxone (Cefotaxime if calcium-containing fluids, premature/jaundiced and <3/12)
- Add ampicillin if <3/12
- Add vancomycin if concern for resistance (overseas, prolonged abx exposure)
- Consider HSV encephalitis
- Dexamethasone 0.15mg/kg to 10mg if bacterial meningitis
- No LP if:
  - Clinical or radiological features of raised ICP
  - Shock
  - Extensive/spreading purpura
  - Seizures (until stabilised)
  - Abnormal coagulation, anticoagulant therapy, Plt <$100x10^9$/L
  - Infection at LP site
  - Respiratory insufficiency

CG103: Delirium

- Risk factors:
  - Age >65
  - Hip fracture
  - Dementia/cognitive impairment
  - Severe illness
- Indicators (change within hours/days):
  - Cognitive function

    - Perception
    - Physical function
    - Social behaviour
- If at risk and indicator present, formal assessment by DSM/CAM tool
- Treat:
    - Treat underlying cause
    - Reassurance
    - Consider short term use of antipsychotic – caution in Parkinsons or dementia with Lewy bodies

CG109: Transient loss of consciousness

- History, examination, ECG
- Additional tests based on clinical assessment
- Advise on driving and health & safety at work
- Red flags – specialist assessment within 24 hours:
    - ECG changes
    - History or examination suggests heart failure
    - TLoC during exertion
    - FH sudden cardiac death <40/inherited cardiac condition
    - New/unexplained breathlessness
    - Heart murmur
- Simple faint if no concerning features and three 'P's present (Posture, Provoking factor, Prodromal symptoms)
- Suggestive epilepsy – refer for review <2 weeks
- Suggestive orthostatic hypotension
    - Check L+S BP – if drop assess causes and treat
- Otherwise refer for specialist cardiovascular assessment

CG112: Sedation in children and young people

- Assess safety (ASA Grade 3 or above generally avoid)
- Fasting
- Informed consent
- Avoid ketamine/opiates for painless imaging
- Clinical monitoring/SpO_2 for all
- BP, $EtCO_2$, ECG for deep sedation
- Before discharge ensure vital signs normal, baseline level consciousness, and pain/nausea controlled

CG124: Hip fracture

- Assess pain on arrival; offer immediate analgesia
- Reassess pain 30 minutes after analgesia; hourly until settled on ward; regularly after this
- Regular paracetamol, supplement with opioids/nerve blocks
- MRI for suspected # if normal XR; CT if contraindicated or delay >24

- Assess for delirium
- Surgery day of or day after admission

CG130: Hyperglycaemia in acute coronary syndromes

- Aim to keep BM<11.0
- Sliding scale in first instance

CG134: Anaphylaxis

- Document reaction and possible precipitants
- Mast cell tryptase as early as possible, 1-2 hours later (no more than 4), and >24 hours (if <16 only if venom, drug, or idiopathic)
- Observe adults 6-12 hours; admit children
- Note increased risk if asthmatic
- Give autoinjector and refer to allergy service

CG137: Epilepsy

- Early referral to specialist after first seizure
- 'First aid' advice and need to report seizures while a/w specialist review should be given
- Investigations:
    - MRI preferred imaging, especially if onset <2 years, focal onset, failure of first-line AEDs
    - CT if MRI not possible, or in an acute situation to exclude acute lesion
    - Consider electrolytes, calcium, glucose
    - ECG in adults; consider in children
- AEDs initiated by a specialist
- Emergency treatment
    - Treat if >5 mins or ≥3 episodes in an hour
    - Airway, oxygen, BM, (Pabrinex if suspected alcohol/malnutrition)
    - Buccal midazolam if no IV access (rectal diazepam alternative), Lorazepam if access
    - Phenytoin/phenobarbitol second line (note latter is 10mg/kg in adult, 20 in children)
    - IV Midazolam or thiopentone (or propofol in adults) third line

CG141: Upper GI bleeding

- Blatchford score at presentation, Rockall after endoscopy
    - Consider early discharge if Blatchford score = 1
- Platelets only if $<50x10^9$/L and active bleeding
- FFP if INR or APTT ratio >1.5, or fibrinogen <1g/L; PCC if on warfarin
- OGD after resuscitation for unstable patient/severe bleeds, within 24 hour for others
- No PPI until after endoscopy
- Variceal bleeds (confirmed or suspected) – antibiotics and terlipressin

CG144: Venous thromboembolism

- Wells +ve and +ve d-dimer – repeat US at 6-8/7 if initial negative

- CTPA first line for PE; then VQ SPECT and VQ planar
- LMWH/Fondaparinux preferred; consider UFH if increased bleeding risk
- UFH and thrombolysis for PE with haemodynamic instability

CG143: Sickle Cell acute crisis

- Moderate pain 4-7 on VAS; severe >7
- Treat as medical emergency – analgesia <30 minutes
- Use patient experience/individual care plan
- O_2 if SpO_2 <95%
- Paracetamol + NSAIDs; strong opiate if severe pain or unresponsive moderate pain
- Reassess pain every 30 minutes until controlled, then every 4 hours
- Consider PCA
- Watch for acute chest syndrome, stroke, aplastic crisis, infection, osteomyelitis, splenic sequestration
- Consider alternative diagnoses, especially if atypical pain

CG150: Headache

- Consider need for investigation if:
    - Worsening headache with fever
    - Sudden onset, reaching peak <5 minutes
    - New neurological deficit, cognitive dysfunction, change in personality
    - Reduced LoC
    - Recent head trauma
    - Triggered by exercise, cough, sneeze, or valsalva
    - Orthostatic headache
    - Features of giant cell arteritis or acute narrow-angle glaucoma
    - HIV/immunosuppressant drugs/other immunocompromised state
    - <20 with history of malignancy
    - Malignancy known to metastasize to brain
    - Vomiting (in absence of other likely cause)

CG151: Neutropenic sepsis

- Treat as medical emergency
- Bloods and cultures; no CXR unless clinically indicated
- Antibiotics (Tazocin; no aminoglycoside unless local consideration)
- Confirm if neutrophils $<0.5x10^9$/L and
    - Temp >38^oC or
    - Other signs/symptoms consistent with sepsis

CG160: Feverish illness in children

- Use axillary temp <4/52, then axillary or tympanic 4/52 – 5
- Parental report of fever should be taken as genuine
- Assess using ‘traffic light’ system

- Red flags:
    - Pale/mottled/ashen/blue
    - No response to social cues
    - Appears ill to HCP
    - Does not wake/stay awake once roused
    - Weak/high pitched/continuous cry
    - Grunting
    - RR>60
    - Moderate/severe recession
    - Reduced skin turgor
    - Non-blanching rash
    - Focal neurology
    - Focal seizures
    - Status epilepticus
    - Bulging fontanelle
    - Neck stiffness
- Amber:
    - Pallor reported by parent/carer
    - No smile
    - Not responding normally to social cues
    - Decreased activity
    - Wakes only with prolonged stimulation
    - Nasal flaring
    - Tachypnoea (>50 if 6-12 months; >40 if over 1)
    - SpO_2 <95% on air
    - Crackles on chest
    - Tachycardia (>160 if <1; >150 if 1-2; >140 if 2-5)
    - CRT ≥3s
    - Dry mucous membranes
    - Poor feeding in infants
    - Reduced urine output
    - T≥39^{o}C if 3-6 months
    - Fever ≥5 days
    - Rigors
    - Swelling of limb/joint
    - NWB/not using extremity
- Red flags – refer for paediatric review
- Amber – may not need admission if careful safety netting in place
- Record HR, RR, temp, CRT; BP if HR/CRT abnormal
- T>38^{o}C if <3/12 and >39^{o}C in <6/12 marker for serious illness
- Consider Kawasaki if fever >5/7
- Look for specific causes (including meningitis, encephalitis, pneumonia, UTI, septic arthritis, osteomyelitis)
- Take travel history

- No oral antibiotics for fever without source

CG167: Myocardial infarction with ST elevation

- Level of consciousness after cardiac arrest post-STEMI is not a factor in decision for PCI
- Thrombolysis if presentation <12 hours and PCI not possible within 120 minutes
- Consider PCI if >12 hours and cardiogenic shock or evidence of ongoing ischaemia
- Ticagrelor + aspirin recommended for one year after PCI in STEMI